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DETERMINATION OF THE OPTIMAL FEASIBLE
METHOD OF PROVIDING PRIMARY MEDICAL CARE
TO THE ACTIVE DUTY SOLDIER AT FORT CARSON, COLORADO

A Graduate Research Project
Submitted to the Faculty of the
U.S. Army-Baylor University Graduate Program
in Health Care Administration
in Partial Fulfillment of the Requirements for
the Degree of Master of Health Administration

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<p>This study was conducted to determine the optimum feasible model of providing primary medical care to the active duty soldier at Fort Carson, Colorado. The battalion aid stations were extensively evaluated to determine their ability to provide initial screening of the soldiers assigned to their units. Their abilities were then compared with the abilities of centralized screening through the Troop Medical Clinics. The author concluded that a combination of methods into a semi-centralized system was most appropriate. The primary advantage the author identified was an order and organization to the sick call system that has been nonexistent previously.</p>					
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I. INTRODUCTION

Fort Carson, Colorado is the home of the 4th Infantry Division (Mechanized), the 43rd Support Group, and a host of other units. The active duty population as of 1 October 1983 is 18,314 troops,¹ and the intensive training that goes on in the units keeps them in an action-packed environment. The emphasis on readiness can be clearly seen in the Division Commander's FY 84 Training Guidance, dated 30 August 1983. For this reason, as well as other obvious ones, the health of the soldier is a primary concern of the line commanders and the medical community.

While commanders want healthy soldiers, they also want their soldiers to be available for duty as much as possible. Sick call has historically been a bone of contention between the troop commanders and the operators of the health care delivery system.² The commanders are concerned that sick call is not run efficiently enough to allow their soldiers to be treated and returned to duty in a timely manner, and the medical personnel are concerned that the sick soldier has enough time to receive proper medical treatment. Few sick call facilities have found the fine line between proper care and quick return to the unit so that both parties in the delivery process are satisfied.

At Fort Carson, the above-mentioned problems associated with sick call are complicated by other factors. First, an acute shortage of primary care physicians for the troop units exists.³ While the three combat brigades each have a surgeon assigned, the 4th Medical Battalion physicians are identified through the professional filler system and do not perform duty with the battalion until mobilization occurs.⁴ Although the brigade surgeons generally are responsible for the operation of the troop medical clinics, the medical battalion physicians have traditionally operated the troop clinics that see patients outside

the combat units. Without the medical battalion physicians, the brigade surgeons are severely overextended.⁵ For this reason, the military physician assistant has been extensively utilized in providing primary care to the troop population. Although the use of physician extenders has been widely acclaimed, both in the military departments and the civilian medical community, their effectiveness is directly proportional to the amount of physician supervision that is applied.⁶ With the physician shortage, the problem of PA supervision at Fort Carson is a critical one. Second, some of the 19 battalion aid stations are thought to be inadequate for the delivery of first line medical care for two main reasons. First, they do not meet the physical plant guidelines laid out in Guide Plate 1B (Doctor's Office/Exam Room) of the current set of Guide Plates: A Presentation of Health Facility Planning Criteria (see Appendix A). Second, the physician assistants rarely are present at battalion sick call, due to the shortage of physicians in the troop clinics. With no physician assistants at the aid stations, battalion medical personnel are limited by HSC Pam 40-7-21 as to the extent of care they can provide. Consequently, sick call has its de facto beginning in one of the five troop clinics, and not in the battalion aid stations.⁷ An additional problem is discovered when the soldier who is seeking medical attention at Fort Carson has to be routed to multiple destinations. For example, he may start at his battalion aid station, which for reasons earlier mentioned, cannot treat his particular problem. Therefore, he is referred to the troop clinic. If he requires any sort of specialized care, he then may be referred to one or more specialty clinics in the hospital. The geographical layout of Fort Carson is such that this soldier may spend as much time traveling to his places of designated care as he does under the hands of the practitioner (see Appendix B). Additionally, he is responsible for transporting his own medical record. Although no empirical data exists at Fort Carson to support

or refute it, the general belief of the medical records personnel is that the number of lost or otherwise improperly handled medical records is directly proportional to the number of times they are handled by the patients.⁸ Finally, although the 4th Infantry Division has organic medical personnel, the troop clinics are staffed primarily with hospital personnel, with the exception of the brigade surgeons and the divisional medics rotating through the clinics for on-the-job training only. When all these factors are considered, along with the traditional problem of returning sick soldiers to duty as quickly as possible, the impact on the delivery of primary health care to the soldiers at Fort Carson is significant and the problem complex.

This study was prompted by specific instances in each problem area described earlier being brought to the attention of the medical command group. With the increased emphasis throughout the medical community on quality assurance, it has become imperative for the medical system at Fort Carson to insure quality care for each of its patients. To insure the level of quality care that is required for the soldiers, these issues must be addressed and solutions found to any of the problem areas that detract from the quality of care that can be provided.

Statement of the Problem

The problem is to determine the optimal feasible method of providing primary medical care to the active duty soldiers at Fort Carson, Colorado.

Objectives

1. Assess the battalion aid stations to evaluate their strengths and weaknesses.
2. Determine the needs of the commanders on Fort Carson concerning the sick call system.

3. Determine the disposition patterns, transportation needs, and transportation capabilities of the sick call patient both to and from the primary care facility.

4. Determine the range of medical problems that the sick call patients at Fort Carson experience.

5. Develop alternative methods of delivering primary health care to the active duty soldiers at Fort Carson.

6. Determine the optimal feasible alternative.

Criteria

The criteria used to evaluate the different alternatives, listed in the order of their importance to the Director, Health Services, Fort Carson, are as follows:

1. Availability of consultative and support services. Adequate consultative services in each specialty area should be readily available to the practitioner, as well as laboratory, radiology, pharmacy, and other ancillary support.

2. Patient transportation capabilities. The patient should be able to be adequately transported to and from the site of his medical care, either by his own means, or by unit or post transportation assets.

3. Adequacy of medical care provided. The patient must receive quality medical care in any treatment environment.

4. Commanders' perceptions. The unit commanders on Fort Carson have definite perceptions about the sick call system. These perceptions can be grouped into three areas: timeliness, unit integrity, and general adequacy of care.

5. Availability of adequate space.

Assumptions

1. That the medical workload and troop population will not change significantly in the near future.
2. That the PROFIS-designated physicians for the 4th Medical Battalion will not be available for duty in the troop medical clinics.

Limitations

1. No medical personnel can be used for sick call outside their unit if their unit is in a downrange training or deployed status.
2. No new construction will be available. Existing buildings on Fort Carson must be used to fill space requirements.
3. Brigade surgeons will be the only physicians used to work in the sick call areas. Hospital physicians will remain in the specialty clinics and will see only referrals from sick call.
4. No additional medical personnel from the hospital will be utilized to operate a new sick call system.

Definitions

1. Medical Assets--The personnel, equipment, and supplies used to operate a medical treatment facility.
2. Medical Treatment Facility--Any facility that sees outpatients (battalion aid stations, troop medical clinics, hospital outpatient clinics, hospital emergency room, preventive medicine clinics).
3. Primary Medical Treatment Facility--Battalion aid stations, troop medical clinics, hospital emergency room.

Research Methodology

Many of the steps to be taken in the research methodology were pursued con-

currently. Therefore, the methodology will be explained in the chronological order that the separate events took place. First, the battalion aid stations were assessed. This assessment was critical, since the battalion aid stations provide the combat arms soldiers with their first opportunity for professionally provided medical care. In a garrison environment, the battalion aid stations may or may not be used in the soldiers' medical care delivery process. At Fort Carson, both methods were seen. Some battalions utilized their organic medical personnel to provide sick call to their active duty soldiers, while others were consolidated at the troop clinic for sick call involving soldiers from several different units. The use of two separate organizational structures has led to inconsistencies in the supervision of sick call personnel, with resulting inconsistencies in the medical care provided. However, the choice of which sick call method to use is dependent upon the effectiveness of the battalion aid station. Therefore, the assessment of the aid stations in the 4th Infantry Division was an important step in the process that will eventually lead to a decision concerning the health of the soldiers. The aid stations in the past have been assessed as field units, as they are designed primarily to be, and not as fixed medical facilities. However, while in garrison, the aid stations are fixed facilities, and they operate differently than when deployed in a field environment. To measure the effectiveness of the aid station in a garrison environment, a different type of assessment was used. This assessment included the past performance of the aid station, the percentage of soldiers the aid station returned to duty, the adequacy of the facility itself, and the personnel strengths of the aid stations. The assessment tool was developed jointly by the Division Surgeon and this writer, and it can be seen at Appendix C.

The next step in the research methodology was the implementation of the commanders survey seen at Appendix D. Questions 1-5 addressed the commanders'

perceptions of timeliness in the current system, as well as their own needs in this area. Questions 6 and 7 addressed the need of the commander to retain control over his organic medical assets. Questions 8 and 9 addressed the unit's capability to provide transportation for its soldiers to and from sick call, and the responses given to Question 10 indicated the general perception of the overall adequacy of the medical care that the soldiers were receiving. Question 11 provided the commanders the opportunity to voice any of their other concerns that were not previously addressed. By totaling the responses to each question, two points became clear: the perceptions of the commanders and the relative consistency of these perceptions throughout the division. These data were used to provide information that helped enlighten the medical community in the area of unit needs and commander satisfaction.

The survey instrument shown at Appendix E was sent to each battalion aid station and troop medical clinic. Beginning on 1 February 1984, the medical personnel at these facilities began entering the appropriate data on the survey forms, and continued this data collection for 30 clinic days. The goal of this study was to try to reveal two key pieces of information: the relative seriousness of the medical problems being seen at each facility, and the patients' capabilities to transport themselves to and from the primary sick call facility. The different dispositions of the patients showed whether they were able to receive final treatment at their first stop in the system, or if a need existed for more definitive treatment further in the system. Whereas the survey of the battalion commanders dealt in purely subjective opinions, this survey provided factual data upon which a decision for or against any alternative could be empirically based.

Once the survey instruments at Appendixes D and E were completed, the data gathered were analyzed to compare the patient's transportation needs with the

capability of the unit to provide for those needs. This information was of paramount importance, since no sick call system will operate effectively if the patients cannot get to the practitioner in a timely manner. The final step in the research methodology was the development of the alternative solutions to the problem, and measuring them against the criteria already discussed. This evaluation of alternatives was accomplished by using the Churchman-Ackoff technique for evaluation of multiple alternatives at Appendix F. The criteria shown on the Churchman-Ackoff table were listed in order of importance by the Director of Health Services at Fort Carson, since it is ultimately his decision as to which method will be used to provide sick call to the soldiers at Fort Carson. Since each criterion had a different priority in the Director's decision making process, they were weighted accordingly on a scale of one to ten. Further, since the meeting of each criterion was not necessarily an all-or-nothing situation, different points were assigned according to the degree that each criterion was met. The assigned points were multiplied by the weighted value of the criterion, and the alternative with the most total points was the one recommended as the optimal feasible alternative.

Footnotes

¹Fort Carson and 4th Infantry Division Information Data Card, 1 October 1983.

²David E. Johnson, LTC, MC, Division Surgeon, 4th Infantry Division (Mechanized), interview held at Fort Carson, 1 November 1983.

³Ibid.

⁴Leonard A. Sly, CPT(P), MSC, S-2/3, 4th Medical Battalion, 4th Infantry Division (Mechanized), interview held at Fort Carson, 1 December 1983.

⁵Ibid., LTC Johnson.

⁶Judy E. Fox, "Physician Extender Use 'Deficient'", U.S. Medicine 19 (September 1, 1983): 17.

⁷Ibid., LTC Johnson.

⁸Curtis L. Bentz, MAJ (P), MSC, Chief, Patient Administration Division, U.S. Army Community Hospital, Fort Carson, Colorado, interview held at Fort Carson on 6 December 1983.

II. DISCUSSION

Evaluation of the Battalion Aid Stations

Since the first level of sick call is performed at the battalion aid station, it became obvious that any and all alternative solutions to the problem statement would be dependent upon the aid stations and their capability to provide quality medical care. If the aid stations were not able to provide this care, an alternative built around the aid stations would not be practical. Therefore, the first step toward the solution of the problem was to assess the aid stations to insure their effectiveness.

The assessment tool at Appendix C was developed specifically for this purpose. Unlike a current Fort Carson Inspector General Checklist (see Appendix G), this tool provides a more realistic evaluation of the aid station in a garrison environment. By examining the most recent Army Training and Evaluation Program (ARTEP) results, along with the evaluation from each individual aid station's most recent training at the National Training Center (NTC) at Fort Irwin, California, the aid station's ability to perform its mission in a field environment was ascertained. However, the aid station's performance of its field mission, while important, did not always mean that the aid station was providing its supported personnel and their commanders with quality medical care in a garrison environment. To allow for the realistic changes in the aid station's mission while in garrison, other factors were added to make the evaluation a more accurate measurement of the aid station's capabilities.

According to HSC Pam 40-7-21, a properly functioning screening section can effectively care for 35% of all personnel reporting to sick call.¹ Using this figure as the guideline, the points for percentage of patients returned to duty were developed. If an aid station returned 10% or less of its patients to duty,

no points were awarded. If the percentage of return to duty fell between 11% and 20%, the aid station was awarded 6 points. When the percentage reached 21% to 35%, the aid station received 12 points. Any aid station that could return 36% to 50% of its sick call to duty was given 18 points in the evaluation, and those returning more than 50% to duty were awarded the maximum 24 points on this section of the assessment tool. According to the data gathered through the Division Surgeon's periodic inspections, as well as the perceptions of the commanders surveyed, the aid stations seldom returned soldiers to duty that needed further care. Indeed, many commanders felt that the medical personnel at the aid stations practiced excessively conservative medicine, sending their soldiers for more definitive care when it was not indicated.

The next area of the assessment tool was designed to cover the medical skills of the personnel assigned to the aid stations. Ideally, the medics' Skills Qualification Test (SQT) results should have been measured to determine each individual's skill level. However, there is no SQT test currently being used for the MOS 91B (Medical Specialist), the occupational specialty of the aid station medical personnel. Since the personnel working at the aid station were considered a critical component in the sick call system, it was assumed for the purpose of this study that the personnel assigned to the aid stations would be considered adequate in their medical skills, and the further development or degrading of these skills would be monitored by the office of the Division Surgeon. This assumption was confirmed by the various aid station supervisors, who generally felt that their personnel were quite capable of performing within the standards of their jobs. If an aid station was assigned 80% or above of its authorized personnel, 10 points were awarded. If the aid station was at 90% or above of its authorized strength, an additional 10 points were awarded in the evaluation of its personnel.

Another measurement of the aid station's abilities to perform its assigned

mission was the Fort Carson Inspector General inspections and the Division Surgeon staff assistance visits. Both were scored numerically, with a certain number of points needed for a passing score. While these two evaluations were not as field-specific as the ARTEP or the NTC evaluation, they were better measurements of the aid station's general capabilities. For sample checklists, see Appendixes G and H. The most recent IG and staff assistance visits were examined, and 7 points were awarded to the aid stations for each one that received a passing score.

Finally, the facility from which the aid station operates was evaluated. Since no standard exists for an aid station in a fixed facility,² the U.S. Army Health Facilities Planning Agency Functional Diagram, Guide Plate 1B, Doctor's Office/Exam Room was used to determine whether or not the aid station had an adequate facility. Only the patient treatment area was measured, with storage and administrative space excluded from the evaluation. An additional factor in the evaluation of the facility was the presence of running water. While combat medics in the heat of battle can do their job without benefit of modern conveniences, it was determined by the Division Surgeon that running water enabled the aid station to deliver a higher quality of medical care in garrison. The aid stations that met the space requirements and the requirement for running water received 6 points for each area met.

In order to be considered adequate for the purpose of this study, the aid stations were required to receive 70% or higher of the points they were eligible to receive. If an aid station received a score of below 70%, it was reassessed to see if it could be improved to the 70% level. If, upon reassessment, the aid station improved to above the 70% level, it was considered adequate. In scoring the various aid stations, no loss of points was assigned if the aid station had not been given the opportunity to score in an individual area. In

other words, if an aid station had not been inspected by the post IG or had not been to the National Training Center, the point value that would have been received from the missing area was subtracted from the total, and the adjusted total was divided by the total points possible to determine the aid station's final percentage. The completed assessments for each aid station may be seen at Appendix C.

The assessment of the aid stations revealed many interesting bits of information. First, a total of 17 aid stations received a score of over 70%, with only two scoring below 70%. The two that did not achieve a passing score were close to passing, with scores of 64% and 69%. However, the mean score for the 19 aid stations evaluated was only 78%, with a significant number of the aid stations falling between 70% and 80% (see Figure 1). Every aid station that was given an ARTEP and a NTC evaluation passed those two areas, which indicates that the aid stations in the 4th Infantry Division (Mechanized) can certainly perform their mission in the field. Additionally, the aid stations that were visited in the past 18 months' by the post IG and/or the Division Surgeon received passing scores on those evaluations. The disparity between the existing assessment tools and the tool used in this study appears to lie in the personnel strengths of the aid stations and their ability to return their patients to duty. The personnel strengths in the aid stations ranged from 59% to over 100%, but there was no apparent correlation between low personnel strength and capability to perform the mission, either in the field or in garrison. To illustrate this point, the aid station from the 3d Battalion, 20th Field Artillery, with a personnel strength of 82%, scored 76% on its evaluation, while the aid station from the 1st Battalion, 8th Infantry scored 90% on its evaluation with a personnel strength of 84%. While it would seem obvious that more medics would lead to a higher quality of care and a higher score on the assessment, the results of

study would indicate that the quality of the medic is more important than sheer numbers. Another area of wide variance between the aid stations is the percentage of patients returned to duty (see Figure 2). In this category, however, the assessment revealed that the aid stations that returned a higher percentage of patients to duty usually received higher scores on their evaluation. Since the weight of this category was greater than the others, it was only natural that this positive correlation was found. However, an important by-product of this particular portion of the assessment was discovered. Many of the battalion commanders on Fort Carson have placed their physician assistants back into the aid stations for sick call. Due to administrative and time constraints, as well as mission priorities, a separate study of the aid stations operations without their physician assistants was not attempted. Realistically, a study of this nature would probably not have received the sanction of the combat unit commanders, making such an effort fruitless. However, the battalion aid stations operating without physician assistants would have been far less productive for two reasons. First, the leadership and technical expertise the physician assistant provides to the enlisted medical personnel would have been absent. Second, HSC Pam 40-7-21 severely limits the enlisted medic in the actions he may take in the treatment of a patient. In fact, these guidelines are so stringent that few patients may be returned to duty without first being examined by a physician or a physician assistant.³

Finally, the examination of the facilities soundly disproved the hypothesis held by the Division Surgeon that the facilities were inadequate. Of the 19 aid stations surveyed, all had adequate space for patient treatment, and the proper equipment was either present or on order. Only seven aid stations did not have running water readily available; and, although it was a slight deterrent in the treatment of their patients, all seven received passing scores when assessed,

of Aid Stations

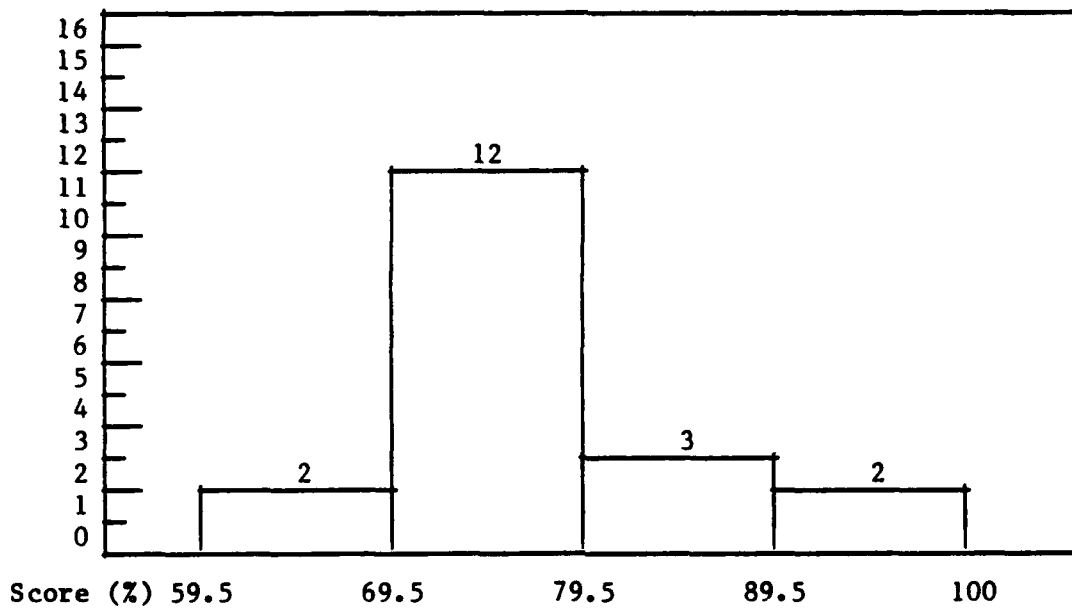


Figure 1: Histogram of scores on battalion aid station assessment.

of Aid Stations

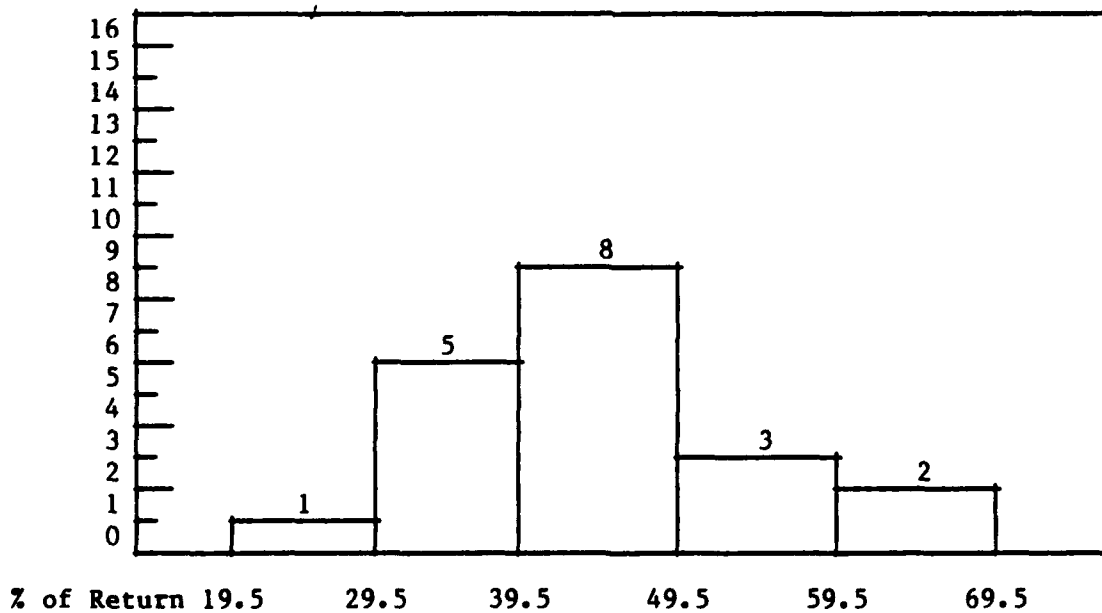


Figure 2: Histogram of percentages of patients returned to duty from the battalion aid stations.

and the average score received by the seven was just under 80%, slightly above the mean for all the aid stations. Considering the two aid stations that failed to achieve a score of 70% were both below the 80% personnel strength level, a problem that can be readily addressed and quickly remedied, the overall condition of the battalion aid stations and their abilities to provide adequate care to the troops on Fort Carson appears to be satisfactory.

Survey of Battalion Commanders

There are 38 battalion-level commanders on Fort Carson. Although all 38 were sent a survey, only 28 responded, taking a certain degree of validation away from the survey results. The various unit commanders are outside the medical community's influence, with no real requirement to respond to such a survey, though, so the 74% response could have been much lower. Of the 28 respondents, many chose to remain anonymous, which precluded any comparisons between combat unit commanders and combat support or combat service support unit commanders. However, many meaningful conclusions can be drawn from the results of the survey.

First, most commanders thought that their soldiers were spending too much time on sick call. 68% of the respondents reported a sick call time of one to three hours, while another 25% of the soldiers stayed on sick call all morning. Although the percentage of commanders that saw these hours as unreasonable was only slightly above 50%, it was clear that the majority of the unit commanders on Fort Carson want their soldiers back to duty faster than they are currently being returned. Concerning the best time for sick call, 79% of the commanders responding to the survey thought that the traditional early morning sick call was best. However, 57% would like to see their soldiers screened and appointed for a return visit later in the day. Such a system is currently in practice at Fort Bliss, Texas.⁴ On the issue of unit integrity for sick call, 70% of the

commanders responding to question 6 on the survey said it was very important that their soldiers be seen by organic medical personnel. The response to question 7 was lower, indicating a smaller number of combat unit commanders had responded to the survey, but all respondents thought it was very important that they maintained control of their medical assets. It can be concluded from the response to questions 6 and 7 that the majority of the commanders would not be in favor of any system that removed their medical assets from the control of the unit commander. The responses to question 8 gave a certain degree of validation to the patient surveys, which will be discussed later in this paper. Most of the soldiers in the units surveyed had their aid stations located in their unit areas, and the ones who did not used their own transportation slightly more than they used unit transportation to go to and from the primary care facility. Although 61% of the respondents stated that their units could provide transportation to a distant sick call area, over half said that the transportation could be provided only if available. The responses to question 10 were overwhelmingly favorable for the current sick call system, with 89% of the responding commanders reporting that their soldiers were receiving adequate care. At the same time, many of those responding positively to question 10 also made it clear in their optional remarks made in response to question 11 that they thought the current system was certainly in need of improvement. The general attitude of the unit commanders toward the current sick call system can best be summed up by the following excerpt from one commander's response to question 11:

"Get rid of APC Model 21!!!! This program discourages thought and medical diagnosis. Any one of the 11B MOS soldiers could complete patient care with this system with minimal training. How can anyone expect a 91B to be able to think on his feet in an emergency when all he is required to do in his everyday job is read through a book and pick out an algorithm which fits the illness or injury? With this system, we are encouraging mediocrity and discouraging the type of thought and medical knowledge necessary for the medics to be able to save lives on the modern battlefield. Medical knowledge is the type of infor-

mation which is best suited to on the job training. With the APC 21 system, on the job training is not a reality. Without on the job training, the medics can't be expected to learn or retain what they have learned. I thoroughly disagree with the implementation of the APC Model 21 and feel it is a step backwards in the training of 91B soldiers. Further, I can see by the theme of questioning...that MEDDAC is considering centralizing sick call at the TMCs or some other remote location. Withdrawing sick call from the battalion area will result in less people who need to be seen for sick call actually going on sick call. Also, the medics' training will again suffer. Our medics need all the training that they can get in order to complete the mission of "Conserve the Fighting Strength" in the next battle."⁵

Patient Surveys

The final survey instrument used to gather data for this study was the patient survey sent to the battalion aid stations and the troop medical clinics. The purpose of this survey was fourfold. First, the data reported would help determine the various types of patient complaints that are treated on sick call. These complaints were grouped into one of the following areas: medicine; surgery; orthopedics; dermatology; ear, nose, and throat; obstetrics-gynecology; psychiatry; and other. Second, the survey similarly helped determine disposition patterns from both the battalion aid stations and the troop medical clinics, and these patterns were again grouped under the medical specialty areas listed above. Third, the transportation capabilities listed by the patients in the survey could be compared with the commanders' perceptions in the same area, thereby lending credibility to the commanders' survey. Finally, the transportation needs of the soldiers could be assessed and compared with the commanders' capabilities to provide for those needs. Although the assessment of the battalion aid stations was probably more important to the overall project, the patient survey presented the study with the most quantifiable data upon which to base the ultimate decision.

The results from the patient survey were broken down into two distinct categories: battalion aid stations and troop medical clinics. Since the level

of medical care offered at the aid station is lower than the level of care at the troop medical clinics, due to the expanded role and the presence of physicians at the troop clinics, it was not appropriate to compare the two. Therefore, the survey results will be discussed separately.

The variance between the different battalion aid stations that was seen during the assessment of the aid stations was again present during the patient survey. The rates of patient return to duty ranged from 27% to 62%, with a mean rate of return of 45%, slightly higher than the predicted rate of return given in HSC Pam 40-7-21. However, the rates of return to duty for the various specialties showed even more variance. For example, the rates of return to duty for medical patients ranged from 17% to 72%, with a mean of 40%. This would seem to indicate a preference for treating certain types of disorders among the physician assistants at the aid stations. For a complete breakdown of rates of return to duty by specialty, see Figure 3. The different complaints handled by the aid stations show somewhat more consistency from unit to unit. Medical complaints were the most frequent, with 38% of the total falling into that category, followed by orthopedic complaints with 24%. The remainder were spread relatively evenly between surgery; dermatology; ear, nose, and throat; and other. The complaints falling into the "other" category covered everything from venereal disease to dental to follow-up appointments of unknown origin. For a complete breakdown of complaints by specialty, see Figure 4.

The information that can be gleaned from these data can be interpreted in a number of ways. First, the overall patient complaint figures indicate that the aid station personnel should be prepared to handle mostly medical and orthopedic cases. However, the rates of patients being returned to duty are above average for these two areas, while they fall below the accepted level in the surgery and dermatology cases. This would seemingly indicate a lack of confidence and/or

**Rates of Return to Duty by Specialty
for Battalion Aid Stations**

<u>Specialty Area</u>	<u>% Returned to Duty</u>
Medicine-----	58%
Surgery-----	43%
Orthopedics-----	48%
Dermatology-----	29%
Ear/Nose/and Throat-----	45%
Obstetrics/Gynecology-----	N/A
Psychiatry-----	N/A
Other-----	21%

Figure 3: Table of Rates of Return to Duty by Specialty Area for Soldiers Seen in the Battalion Aid Stations.

**Percentages of Patient Complaints by Specialty
for Battalion Aid Stations**

<u>Specialty Area</u>	<u>Percentage</u>
Medicine-----	38%
Surgery-----	8%
Orthopedics-----	24%
Dermatology-----	8%
Ear/Nose/and Throat-----	13%
Obstetrics/Gynecology-----	N/A
Psychiatry-----	N/A
Other-----	9%

Figure 4: Table of Patient Complaints Treated at the Battalion Aid Stations shown by Specialty as a Percentage of Total Complaints Treated.

skill in the treating of these particular types of complaints, perhaps calling for further training in the areas of surgery and dermatology for the aid station personnel. Predictably, the aid stations handled ambulatory patients exclusively, with the patients who could not make it to sick call under their own power taken to the emergency room on most occasions. However, the transportation of the patients to the aid stations revealed that almost 20% of the patients either drove their own cars or rode with someone else to sick call. This is a bit surprising, since most of the aid stations are located in the immediate battalion areas. Only 1% of the patients were transported to sick call by their units, which is generally in line with the information concerning patient transportation capabilities from the commanders' survey. When these patient transportation figures are compared with the unit transportation figures from the commanders' survey, it can be determined that the 80% of the total number of patients that walk to and from sick call may be faced with problems if they expect the unit to provide them transportation.

The figures from the troop medical clinic surveys roughly matched those from the battalion aid station surveys, with a few exceptions. The ear, nose, and throat and the dermatology patients each approximately doubled the number of surgery and other patients. Additionally, a small number of obstetrics-gynecology patients was seen at the troop clinics, with none at the aid stations. The medical complaints again were the most in number, followed a bit more closely by orthopedics. The big difference between the survey of the troop clinics and the aid stations was the rate of the patient's return to duty. The rate of return in the troop clinics ranged from 89% to 96%, with a mean of 93%. This indicates a tremendous amount of medical expertise at the troop clinic level, with a very small number of patients needing further care. Again, when broken down into specialty areas, the figures tend to be a bit more revealing. For example, the

**Rates of Return to Duty by Specialty
for Troop Medical Clinics**

<u>Specialty Area</u>	<u>% Returned to Duty</u>
Medicine-----	93%
Surgery-----	80%
Orthopedics-----	92%
Dermatology-----	98%
Ear/Nose/and Throat-----	94%
Gynecology-----	81%
Psychiatry-----	N/A
Other-----	93%

Figure 5: Table of Rates of Return to Duty by Specialty Area for Soldiers Seen in the Troop Medical Clinics.

**Percentages of Patient Complaints by Specialty
for Troop Medical Clinics**

<u>Specialty Area</u>	<u>Percentage</u>
Medicine-----	38%
Surgery-----	5%
Orthopedics-----	33%
Dermatology-----	10%
Ear/Nose/and Throat-----	8%
Obstetrics/Gynecology-----	1%
Psychiatry-----	N/A
Other-----	5%

Figure 6: Table of Patient Complaints Treated at the Troop Medical Clinics shown by Specialty as a Percentage of Total Complaints Treated.

rate of return to duty of the surgery patients at the troop medical clinics is significantly higher than all other specialties except OB/GYN, and the relatively low rate of return of the OB/GYN patients can be explained by the policy that allows active duty females priority in the hospital OB/GYN clinic. For a more complete breakdown of rates of return to duty and complaints by specialty, see Figures 5 and 6 respectively.

The troop clinics also handled ambulatory patients almost exclusively, with only 2% of the patients unable to reach the clinic without some assistance. However, more patients drove or rode with others to the troop clinics than were transported similarly to the battalion aid stations. Almost 30% of the troop clinics' patients arrived in some manner other than walking. Again, this would indicate a need for some form of transportation to the sick call facility for the patient. The troop clinics are geographically situated, with the units in the proximity of the clinics becoming its primary users. Under a system that designated troop medical clinics for brigade-sized units, transportation would definitely be a problem, since the geographical layout of most of the brigade-sized units on Fort Carson is quite diffused. In the event of a reorganization of the troop medical clinics along unit lines, the unit or the post would have to provide transportation for some, if not most, of the patients.

Physician Supervision

At this point, it would be appropriate to address the problem of physician supervision in the aid stations and the troop clinics. Since the hospital physicians do not perform any duty outside the hospital, adequate physician coverage of the troop clinics is difficult. The brigade surgeons cannot be in five troop medical clinics at once, and physician supervision is required by the Director of Health Services on Fort Carson to insure quality medical care is being delivered. The problem with physician supervision lies generally in two

area. First, the aforementioned shortage of primary care physicians does not allow the Director of Health Services to assign any physicians from the hospital to supervise or otherwise work in the troop medical clinics or the battalion aid stations. While this decision could be modified by the Director, such a modification would be at the expense of the hospital specialty services. Second, the geographical separation of the troop medical clinics and the battalion aid stations from the hospital area causes logistical problems in the support the hospital provides the other units on post. Again, for the physician to leave the hospital and travel to the other end of the post to supervise sick call would take an excessive amount of medical resources away from the hospital. Therefore, it will be impossible to provide adequate supervision for the medical personnel at the battalion aid stations and the troop medical clinics as long as they remain geographically separate from the hospital, and as long as the physician shortage at Fort Carson remains in its present acute state.

Development of Alternatives

Early in the research effort it was determined that a number of suitable alternatives could be applied to this particular problem. However, in order to make the study more manageable, the Director of Health Services decided that the number of alternatives considered would be limited to four. Since one alternative was to leave the current system as it is, there were only three left to develop independently. In developing these alternatives, all possibilities were considered, with the exceptions being defined as limitations earlier in this paper.

The first alternative that was developed from the study was to completely decentralize the division medical assets to the lowest possible level. Under this alternative, the members of the combat battalion medical platoons, to include the physician assistant, would see sick call patients from the aid sta-

tions. Any patients that could not be treated and returned to duty from the aid station would be referred the troop medical clinic assigned to his unit. All soldiers assigned to units without medical platoons would be designated a specific troop clinic for sick call. The designation of the troop clinics could be based upon geographical proximity to the troop clinic or the troop clinics could be reorganized to effect ownership of the troop clinics by brigade-sized units. While the reorganization of the troop clinics in the latter manner would certainly enable brigade commanders to retain full control over their medical assets, it is not feasible for two reasons. First, the location of some of the units belonging to the same brigade can be on opposite ends of the post, forcing transportation problems for the sick call patients. Second, there are not enough troop medical clinics to go around to all the brigade-sized units on post. The three combat maneuver brigades, the division artillery, the division support command, the division separate battalions, the aviation units, and the 43d Support Group would have to somehow share the five troop medical clinics. This sharing of medical resources is already taking place under the system that designates troop clinics by geography, and this system is the only one that is feasible without constructing new troop clinics. Therefore, under this alternative, the physician assistants would be responsible for sick call in the combat battalions, and the brigade surgeons would conduct sick call for the combat support and combat service support personnel in the troop clinics. In the event that the number of brigade surgeons was not sufficient to staff the troop clinics, only selected clinics that could be staffed adequately would be utilized for sick call. After the completion of sick call at the battalion aid stations, the physician assistants could move to the troop clinics and assist the physicians for the remainder of the sick call period.

The advantages to this alternative are many. First, the battalion com-

mander retains control over his medical assets, which proved to be very important to the battalion commanders that responded to the survey. Second, by remaining with their units daily, the medical personnel could become more familiar with the particular problems of the unit, along with the rest of the unit personnel. This would promote more unit integrity, another concern of the battalion commanders surveyed, and it would enable the physician assistants to more easily identify possible abusers of the sick call system. Third, it would increase the amount of time the physician assistant could spend with his unit, training his subordinate medical personnel and maintaining his supplies and equipment. Finally, this alternative would force the unit medical personnel to perform their daily mission much the same as they would in a deployed status. This not only would give them confidence in their abilities, but would also give the other members of the unit confidence that they would be properly cared for in time of combat. On the other hand, there are definite disadvantages to this alternative. First, the brigade surgeons would be responsible for more patients than they currently are, extending them to the very limit of their endurance on a daily basis. In the event that battalion sick call kept the physician assistants from aiding the brigade surgeons in their sick call, the troop clinics could be seeing patients well past the acceptable closing time for sick call. Second, the battalion commanders could take too much control over the medical platoons, keeping the brigade surgeons and the Division Surgeon's staff from adequately supervising their work. An additional disadvantage would occur if the battalion commander utilized the medical personnel inappropriately at the expense of the troop clinics. In order for this alternative to be feasible, a formal agreement between the various unit commanders, the Division Surgeon, and the Director of Health Services would have to be executed, clearly outlining the responsibilities and duties of all parties concerned.

The second alternative calls for total centralization of the division medical assets into a single consolidated troop medical clinic. Although no other Forces Command post has utilized a consolidated troop medical clinic, Fort Bliss, Texas, a Training and Doctrine Command installation, has a centrally located troop clinic that has been quite successful.⁶ Under this alternative, the separate unit commanders with organic medical personnel would relinquish operational control of their medics during normal sick call hours. All the medical personnel would be located in a single facility, and all patients would report to sick call at that facility. The advantages of this system lie mainly in the inherent supervisory capability the physicians would have over their subordinate medical personnel. As earlier stated, the quality of medical care the physician extenders are able to provide largely depends upon the amount of supervision and consultation they receive from the physicians. If the physicians are co-located with their extenders, this supervision obviously is more effective than if they are in separate locations. Additionally, the only existing facility at Fort Carson that is large enough to house a consolidated troop medical clinic is the hospital. With sick call held in an area of the hospital building, consultative and ancillary services would be much more readily available than if the sick call facility was geographically separated from the hospital. However, despite the apparent strength of these advantages to this alternative, some disadvantages are also evident. First, the patient would have difficulty in transporting himself to a consolidated facility. Since so many patients now walk to and from sick call, post or unit transportation systems for this reason are non-existent. Second, the battalion commanders are very strongly against relinquishing any control over their medical personnel. While the medical community sees patient care and medical readiness as mutually compatible goals, many unit commanders utilize their medical personnel in other

tasks, and their loss might affect the unit's combat mission.⁷ Third, the intangible asset of unit integrity between the medical personnel and the patient population would be lost. While this element is largely immeasurable, the unit commanders conveyed strong feelings of importance in this area when surveyed. So, in order for this alternative to be feasible, three events must take place. First, a formal agreement between all involved parties, much like the agreement proposed for the first alternative, would be necessary. Second, the space and available supplies and equipment would have to be evaluated to insure its acceptability to the new system. Finally, a transportation system to insure the patients easy access to the consolidated clinic must be developed. Since many of the units are unable to provide this transportation to their soldiers, the logical operator of this system would be the post. To be effective, the system should be separate from the regular post shuttle-bus system, and should provide transportation for sick call only.

The third alternative developed was a combination of the first two alternatives, providing for partial centralization of medical assets, but keeping their control generally under the unit commander. Under this alternative, sick call would begin in the aid stations, but the medical personnel from the various aid stations would be located in the troop medical clinics. The patients that could not be treated adequately by the aid station personnel would be sent to a smaller consolidated clinic where the brigade surgeons would be located. The soldiers assigned to units without organic medical personnel would be assigned a specific troop clinic for sick call where they would see aid station personnel. The advantages to this alternative lie in its flexibility. The brigade surgeons would have no assigned patient-care duties during sick call hours, freeing them to rotate through the troop clinics to supervise the physician assistants and other medical personnel. The triage of patients that could take place at the

troop clinic sick call would eliminate many of the patients that would have reported to the consolidated troop clinic under the conditions in the second alternative. Therefore, the brigade surgeons would not require as much assistance from the other medical personnel, freeing them to return to their units for other duties or training. The only disadvantages seen in this alternative are the slight transportation problem that would occur and the minimal loss of unit integrity that might occur if one unit was particularly overloaded with patients and had to have assistance from the medical personnel from another unit. However, this system could be engineered to retain the desired unit integrity, and the transportation problem could be kept at a minimum if the units were assigned to a troop clinic in close proximity to their location. Again, formalized agreements between commanders concerned would lend validity to this system, but the points of the agreement would be much easier to agree upon than in the first two alternatives.

The final alternative is to leave the system as it is currently operating. Although the commanders surveyed are generally pleased with the current system, its inconsistencies are cause for concern in the Fort Carson medical community. First, while most of the aid stations are utilizing their physician assistants for sick call, the guidance is unclear from the Director of Health Services on how he wants the system to operate. Many of the battalion commanders appear to base their decision on how to operate their aid station largely upon the individual ability of their physician assistant. Although this might be sound management practice, it is a system that must be re-evaluated every time a new physician assistant is assigned. Under a more formal system with definitive guidelines for operation, this practice is unnecessary. If the physician assistants possess a varying degree of competence, their association with each other on a daily basis will allow the stronger skilled professionals to influence those who

are less able to perform their duties effectively. Another disadvantage of the current system is the seeming lack of control over the medical assets, both by the Division Surgeon and the unit commander. Although formal guidance is available for just this purpose, the high rate of turnover in the division outdates the guidance within a short time after it is published. Unit commanders as well as medical personnel change, and the result is often seen in the uncertainty that the medical personnel show in trying to mix their medical duties with their unit responsibilities. Again, formal guidance that takes the decision of how to operate the sick call system away from the combat commander will solve this problem. All in all, the current system, if confusing, is marginally effective; but, improvements can and should be made to make the system more consistent throughout its application to insure a higher quality of medical care for the soldiers of Fort Carson.

Application of the Alternatives to the Model

The Churchman-Ackoff technique for evaluation of multiple alternatives is a valuable tool when faced with a decision among more than two choices. This technique allows the decision-maker to apply the criteria for selection to each alternative and receive quantitative results that can be easily measured. In this application, as explained in the research methodology, each criterion was weighted by the Director of Health Services, and the capability of the different alternatives to meet the criteria was also measured. The results of the evaluation of the alternatives using the Churchman-Ackoff technique can be seen at Appendix F.

In the evaluation of Alternative 1 (total decentralization), the ability to provide consultative and support services received no points, due to the fact that if the medical personnel are totally decentralized, the brigade surgeons who must provide these services will be overcome by their own patient loads.

This will prevent them from traveling among the various aid stations to observe and supervise their operations. The patients' transportation capabilities under Alternative 1 received a maximum score of 80 points. If the aid stations are all fully operational, few soldiers will have to journey outside their unit areas to report to sick call. The 60 points assigned to the adequacy of care provided under this alternative were based upon the fact that under total decentralization, the physician assistants will be in the aid stations to provide the level of care called for in HSC Pam 40-7-21. In measuring the commanders' perceptions against Alternative 1, it was apparent that they believed that the system could be much more responsive to their needs if they retained full control over their medical personnel, so 10 points were awarded. Since the decentralization of medical assets would certainly provide the commanders with the unit integrity they desire and with an adequate degree of care, 20 additional points were given to Alternative 1. Concerning the availability of space, the total decentralization of medical assets would not require any space in excess of what is already being utilized, so the full credit of 20 points was awarded. Alternative 1 received a total point count of 190.

Alternative 2 (total centralization) received the maximum of 100 points in the area of consultative/support services, since the physicians would be co-located with the rest of the medical personnel. However, the difficulty the soldier would encounter in transporting himself to and from the centralized clinic resulted in no points being awarded for the second criterion. The centralized troop clinic would obviously be able to provide high quality care, as the maximum 60 points assigned would indicate. The perceptions of the unit commanders when measured against Alternative 2 result in a maximum of 10 points each in the areas of timeliness and adequacy of care, but no points can be awarded for unit integrity since all the medics will essentially be leaving their units

for sick call. Although space is available for a consolidated troop clinic in the hospital, considerable renovation would have to be completed before the available space is adequate for a patient treatment area, so only partial credit was given to this criterion. The evaluation of Alternative 2 resulted in a total of 190 points.

Alternative 3 (partial centralization) provides the medical personnel with a ready availability of consultative and support services, with the brigade surgeons moving freely from clinic to clinic in their supervisory efforts. While the patients' transportation capabilities are not as fully met with this alternative as they were with Alternative 1, they are met far better than in Alternative 2 and partial credit is given. Since the quality of care provided increases with the amount of supervision that would be given, Alternative 3 was considered to provide more than adequate care to the soldiers. The commanders' perceptions again received a maximum score in timeliness and adequacy of care, since the system outlined in Alternative 3 will be essentially as timely as the first two. The loss of unit integrity under this alternative would not be complete, so partial credit for the meeting of this criterion was given. Since the space that Alternative 3 would utilize is the same space that is currently in use, the maximum 20 points were awarded. Alternative 3 received 245 total points.

The fourth alternative (no change) received only partial credit for the availability of consultative and support services, since the physician supervision is not consistent throughout the system. Patient transportation capabilities are good, however, and the maximum 80 points were assigned. The adequacy of care provided under the current system received only partial credit, based upon the assessment of the battalion aid stations and the relatively low average score received on this assessment. Although the current system apparently meets

the commanders' needs concerning unit integrity and adequacy of care, they made it clear by the results of the survey that they are unhappy as a group with the amount of time that their soldiers are spending on sick call, so only 20 points were awarded in the area of commanders' perceptions. This alternative received a total of 200 points.

Footnotes

¹Commander, Health Services Command. HSC Pam 40-7-21--Ambulatory Patient Care. San Antonio, Texas (U.S. Army Health Services Command), p. 2.

²Jack P. Story, Jr., COL, MSC, Executive Officer to the Surgeon, U.S. Army Forces Command, telephonic interview held at Fort Carson, 2 November 1983.

³David E. Johnson, LTC, MC, Division Surgeon, 4th Infantry Division (Mechanized), interview held at Fort Carson, 3 April 1984.

⁴Fernando Martinez, MAJ, MSC, Chief, Clinical Support Division, William Beaumont Army Medical Center, interview held at Chicago, Illinois, 7 March 1984.

⁵John C. Mackey, LTC, IN, Commander, 1st Battalion, 8th Infantry (Mechanized), interview held at Fort Carson, 21 February 1984.

⁶Ibid., MAJ Martinez.

⁷Ibid., LTC Johnson.

III. CONCLUSION AND RECOMMENDATIONS

In conclusion, it is appropriate to restate the problem as the determination of the optimal feasible method of providing primary medical care to the soldiers at Fort Carson. In order to arrive at that method, the battalion aid stations have been assessed, and the level of medical care they are capable of providing has been ascertained. The commanders of battalion-sized units on Fort Carson have been surveyed to determine their needs and perceptions in three key areas concerning sick call: timeliness, adequacy of care, and unit integrity. The battalion aid stations and the troop medical clinics have been surveyed over a 30-clinic day period to determine patient complaint patterns by specialty, patient disposition patterns by specialty, and patient transportation capabilities. Finally, alternative solutions to the problem have been developed and applied to a quantitative model to determine the optimal feasible alternative.

It is the recommendation of this study that Alternative 3 calling for partial centralization of medical assets be implemented. By adopting this proposal, definitive guidance will emerge from the Director of Health Services on Fort Carson, the combat unit commanders will no longer have the capability to alter their sick call system, and the misuse of division medical personnel will be kept to a minimum. Additionally, the quality of medical care given to the active duty soldier on Fort Carson will be enhanced by the additional supervision the brigade surgeons will be able to give to their medical personnel. Finally, this alternative will give order and organization to the sick call system that it has not had prior to this study. By having concrete guidelines to follow, this system will be easier to operate, maintain, and improve.

While a detailed implementation plan would constitute another graduate research project, a rough outline of how this alternative may be implemented

will follow. The first step in the implementation process should be the designation of troop clinics by the units that will occupy them. If an aid station is currently sending its soldiers to a particular troop medical clinic, then that aid station should operate from that troop clinic. The five available troop clinics should be divided among the 19 aid stations, with geographical proximity to the soldiers supported being the chief criterion considered. The second step in the process should be the organization of the troop clinics to provide the sick call patients with the most effective and efficient treatment. Patient flow patterns should be established, and aid station personnel should be allowed to treat the personnel assigned to their units, when possible. Contingency plans should be written to address the following areas: units in training downrange, overflow periods when aid station personnel from one unit will need to help those from another unit, and the absence of key medical personnel. The next step in the implementation of this system should be the organization of the supervisory duties of the brigade surgeons, as well as the organization of the consolidated clinic they will operate. Finally, the system must be evaluated after a certain period of time to insure it is operating effectively and providing high quality patient care.

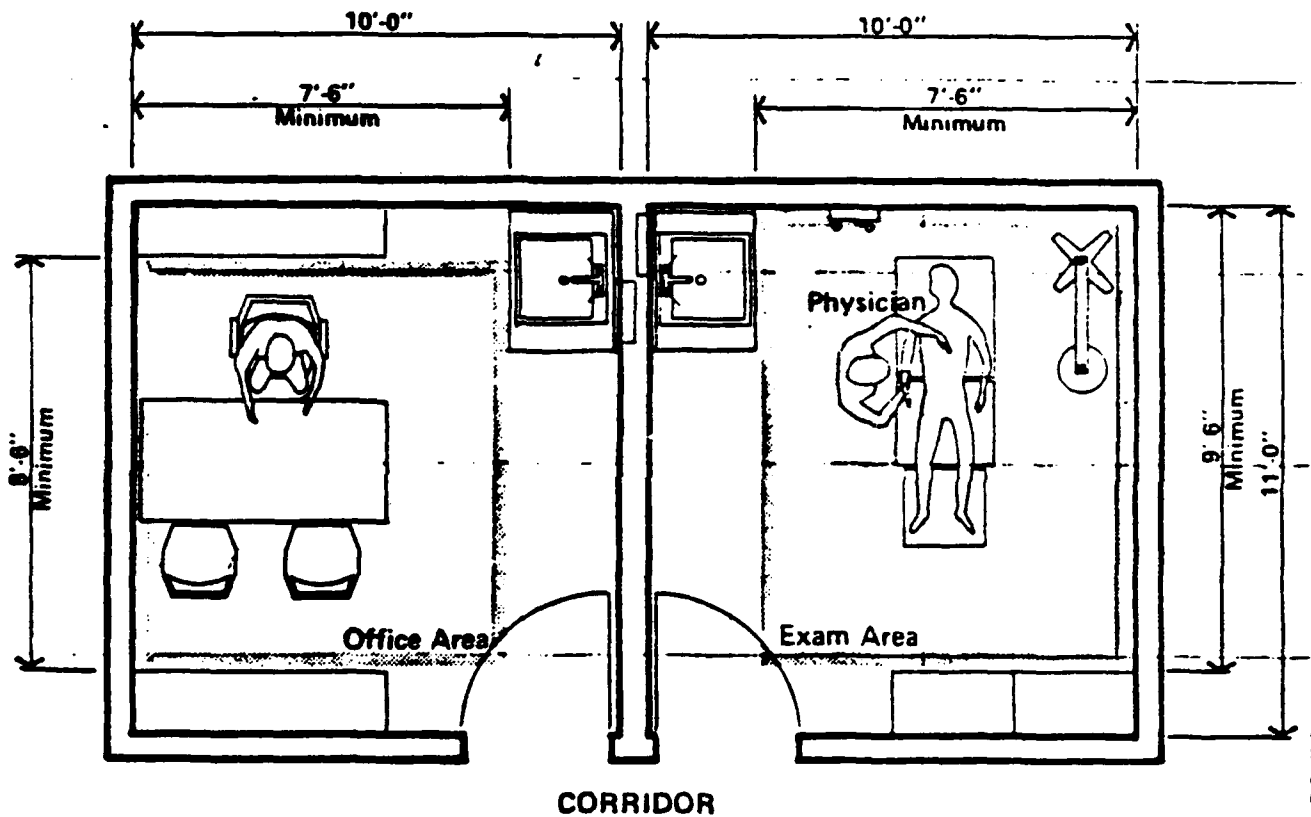
A final consideration that may be entertained after the system is operating smoothly is that of scheduling appointments for some sick call complaints. Two studies of the appointment system for sick call have been completed, one at Fort Polk and one at Fort Bliss, and many valid suggestions are available in these studies. However, it is important to remember that any system for handling the sick call of combat soldiers must be tailored to the individual unit. Due to geographical and mission differences, any suggestion made from another post, camp, or station should be carefully considered against the peculiarities of the units involved, and considerable study should be accomplished before a decision is made.

APPENDIX A

GUIDE PLATE 1B (DOCTOR'S OFFICE/EXAM ROOM)
EXTRACTED FROM GUIDE PLATES: A PRESENTATION OF
HEALTH FACILITY PLANNING CRITERIA

USAHFPA Functional Diagram

Guide Plate 1B Doctor's Office/Exam Room



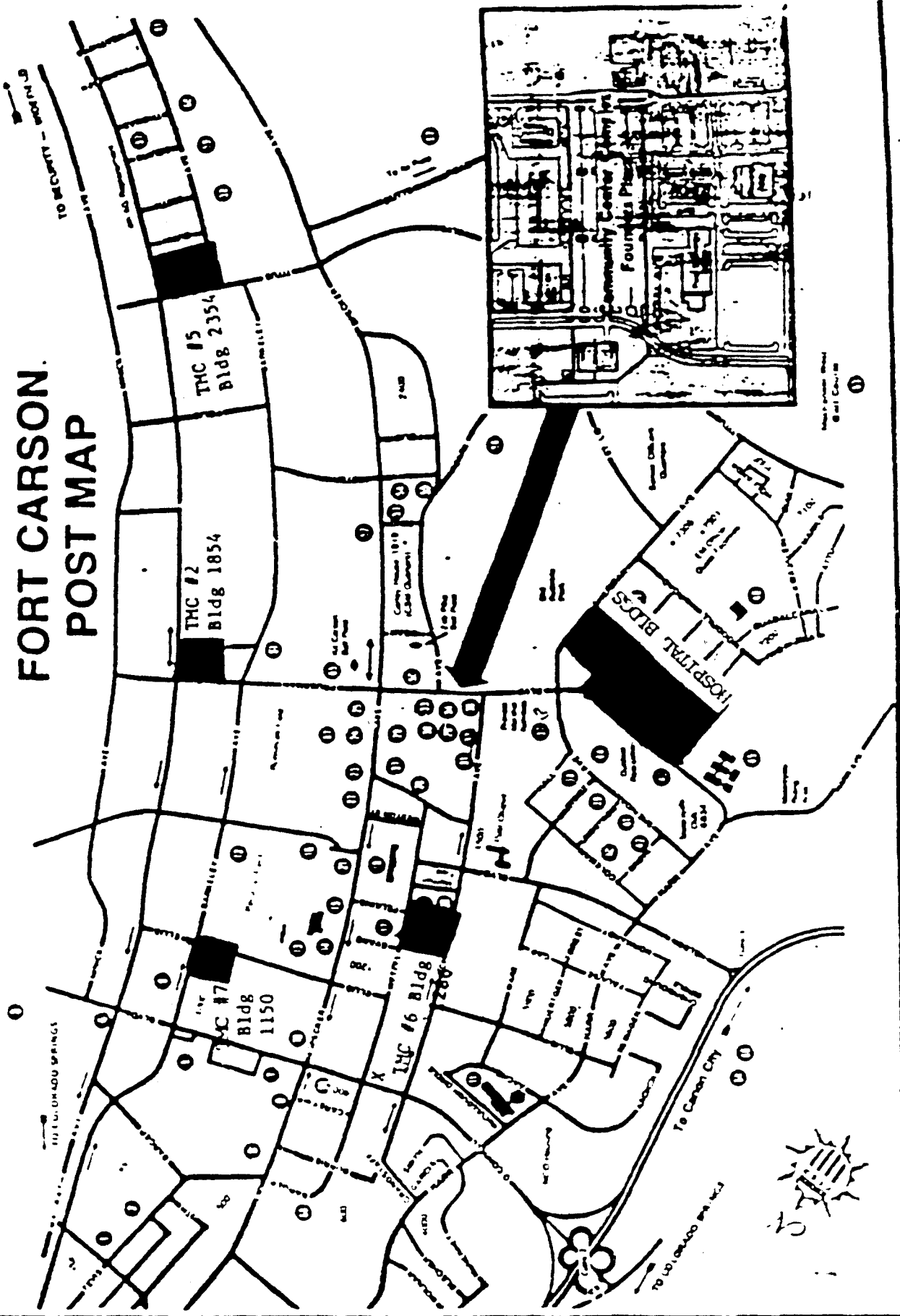
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APPENDIX B

MAP OF FORT CARSON
SHOWING LOCATIONS OF THE HOSPITAL
AND THE TROOP MEDICAL CLINICS

FORT CARSON. POST MAP



APPENDIX C

ASSESSMENT TOOL FOR BATTALION AID STATIONS
IN A GARRISON ENVIRONMENT

BATTALION AID STATION ASSESSMENT TOOL

AID STATION	JOB PERFORMANCE DATA						% RETURN TO DUTY	PERSONNEL	FACILITY	TOTAL	
	0 Go—0 points			0 Go—0 points			0-10%—0 points	80%-10 pts	Space-6 pts	Raw	Pct
	1 Go-15 points			1 Go- 7 points			11-20%—6 points	90%-20 pts	Water-6 pts		
	2 Go-30 points			2 Go-14 points			21-35%—12 points				
	ARTEP	NTC	POINTS	IG	STF	POINTS	36-50%—18 points				
							51-100%—24 points				
1/77 AR	GO	GO	30		GO	7	42%—18	76%—0	12	67	72%
2/34 AR	GO	GO	30	GO	GO	14	27%—12	76%—0	12	71	71%
4/40 AR	GO	GO	30		GO	7	39%—18	71%—0	12	67	72%
3/68 AR	GO	GO	30		GO	7	47%—18	59%—0	12	67	72%
1/10 CAV	GO		15				40%—18	83%—10	12	55	77%
4/68 AR	newly arrived unit on post						62%—24	79%—0	12	36	64%
1/8 INF	GO	GO	30	GO	GO	14	59%—24	84%—10	12	90	90%
1/10 INF	GO	GO	30		GO	7	54%—24	76%—0	12	73	78%
1/12 INF	GO	GO	30	GO	GO	14	39%—18	70%—0	12	74	74%
1/22 INF	GO	GO	30	GO	GO	14	42%—18	81%—10	6	78	78%
DIVARTY	GO	GO	30				61%—24	120%—20	12	86	100
5/29 FA	GO	GO	30		GO	7	38%—18	91%—20	6	81	87%
3/29 FA	GO	GO	30	GO		7	36%—18	82%—10	6	71	76%
1/27 FA	GO	GO	30	GO	GO	14	41%—18	90%—20	6	88	88%
1/29 FA	GO	GO	30		GO	7	44%—18	82%—10	6	71	76%
4/61 ADA	GO	GO	30	GO	GO	14	49%—18	80%—10	6	78	78%
4 ENGR	GO	GO	30		GO	7	51%—24	79%—0	6	67	72%
52 ENGR	GO		15	GO	GO	14	42%—18	79%—0	12	59	69%
4 AVN	GO	GO	30		GO	7	36%—18	83%—10	12	77	83%

APPENDIX D

SURVEY SENT TO ALL BATTALION-SIZED UNIT COMMANDERS
ON FORT CARSON

TO: All Battalion-Level Commanders on Fort Carson

This survey is part of a study to improve the current sick call system. All battalion commanders on Fort Carson are requested to complete the survey, with comments whenever appropriate. Any questions or further input for the study should be directed to CPT Billingsley at the hospital--579-5536.

Circle the appropriate response. Add comments if desired.

1. Which of the following best describes your unit's average time away from duty due to sick call? (Do not include the time soldier is "on quarters")
 - a. 1 hour or less
 - b. 1-3 hours
 - c. All morning
 - d. All day
2. The amount of time spent by your soldiers on sick call is:
 - a. Too long
 - b. Reasonable
 - c. Too short
 - d. No opinion
3. If your soldiers are spending too much time on sick call, in your opinion, how much time from sick call formation to the soldier's return to the unit do you feel is acceptable?
 - a. 1 hour
 - b. 1-3 hours
 - c. All morning
 - d. All day
 - e. Other ()
4. What is the best time of day for your soldiers to be seen for routine medical appointments?
 - a. First thing in the morning (0700-0900)
 - b. Before lunch (1000-1200)

- c. Immediately after lunch (1300-1400)
 - d. Afternoon (1400-1600)
 - e. Other ()
5. If one of your soldiers was seen on sick call and the medical personnel determined that his complaint could wait, which option would you prefer?
- a. The soldier remain at the aid station, troop clinic, or hospital until he can be treated and returned to duty.
 - b. The soldier return to the unit with specific duty limitations, if any, detailed on his sick slip and then return to the clinic later for his medical complaint.
6. How important is it to you that your soldiers see medical personnel that are organic to their own unit?
- a. Very important
 - b. Slightly important
 - c. Insignificant
7. If you are a commander of a line battalion, how important is it to you to have your own organic aid station while in garrison? (If your unit has no organic medical personnel, do not respond.)
- a. Very important
 - b. Slightly important
 - c. Insignificant
8. If your unit is not within walking distance of your aid station, how do your soldiers get to and from sick call?
- a. Unit transportation
 - b. Private transportation (POV, walk)
 - c. Post transportation (bus, taxi)
 - d. Aid station located in unit area
9. If the primary sick call area was located some distance from your unit, could your units provide transportation for sick call?
- a. Yes
 - b. No
 - c. If available

10. Do you feel that the soldiers of your unit receive adequate medical care under the current system?

a. Yes

b. No

11. (Optional) What improvements need to be made to the current sick call system? How can it be made to be more responsive to your needs?

(Optional)

Your name and rank:

Your unit:

APPENDIX E

PATIENT SURVEY TAKEN FROM 1 FEBRUARY 1984 THROUGH 16 MARCH 1984
IN THE TROOP MEDICAL CLINICS AND THE BATTALION AID STATIONS
ON FORT CARSON

[illegible]

APPENDIX F

CHURCHMAN-ACKOFF TECHNIQUE FOR
EVALUATION OF MULTIPLE ALTERNATIVES

CHURCHMAN-ACKOFF TECHNIQUE FOR EVALUATION OF MULTIPLE ALTERNATIVES

CRITERION	WEIGHT	ALTERNATIVE 1		ALTERNATIVE 2		ALTERNATIVE 3		ALTERNATIVE 4	
		Total Decentralization	Points	Total Centralization	Points	Partial Centralization	Points	No Change	Pts.
Consultative/Support Services	10	0	0	10	100	10	100	5	50
		10	80	0	0	5	40	10	80
Adequacy of Care Provided	6	10	60	10	60	10	60	5	30
		10	10	10	10	10	10	10	10
Commanders' Perceptions	1	10	10	10	10	10	10	0	0
		10	10	0	0	5	5	10	10
Space Availability	2	10	20	5	10	10	20	10	20
		10	10	10	10	10	10	10	10
TOTAL POINTS			190		190		245		200

If an alternative fully meets the criterion, the multiplier will be 10.

If an alternative partially meets the criterion, the multiplier will be 5.

If an alternative does not meet the criterion, the multiplier will be 0.

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MISSING
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ORIGINAL
DOCUMENT

TO&E INSPECTION

UNIT _____

DATE _____

<u>ITEM</u>	<u>REQUIRED</u>	<u>ON-HAND</u>	<u>COMPLETE</u>	<u>ITEMS MISSING</u>
1500 Chest	_____	_____	_____	_____
4200 Chest	_____	_____	_____	_____
Chem Chest	_____	_____	_____	_____
4400 Bags	_____	_____	_____	_____
Aid Bags	_____	_____	_____	_____
Sur. Sets	_____	_____	_____	_____
Spl. Sets	_____	_____	_____	_____
Litters	_____	_____	_____	_____
Blkt. Sets	_____	_____	_____	_____

	<u>1500</u>	<u>4200</u>	<u>4400</u>	<u>Chem</u>	<u>Spl Set</u>	<u>Aid Bag</u>	<u>Sur Set</u>
Proper Doc. Records /	_____	_____	_____	_____	_____	_____	_____
Proper Q&R Records	_____	_____	_____	_____	_____	_____	_____
Equipment properly secured	_____	_____	_____	_____	_____	_____	_____

Comments _____

	<u>AUTHORIZED</u>	<u>ON-HAND</u>	<u>MISUTILIZED</u>
Medical Personnel	_____	_____	_____

INSPECTOR _____ PLT SERGEANT _____

OUTSTANDING _____ SATISFACTORY _____ UNSATISFACTORY _____

RECORDS INSPECTION

UNIT _____ DATE _____

Number of personnel in Battalion/Company _____

Records on-hand _____

Records missing _____

Records signed out _____

Temporary records _____

Total Accountability _____

Serviceable Checking of 10% of Unit Strength

<u>Shots Required</u>	<u>Needed</u>	<u>Inside Records</u>	<u>Needed</u>
Plague	_____	Audio Exam	_____
Smallpox	_____	Physicals	_____
Tetanus	_____	Inserts	_____
TB Tine	_____	Overweight	_____

Records in proper sequence _____

Medical Forms in proper sequence _____

Comments _____

INSPECTOR _____ PLATOON SERGEANT _____

Outstanding _____ Satisfactory _____ Unsatisfactory _____

APPENDIX H

**DIVISION SURGEON, 4TH INFANTRY DIVISION (MECHANIZED)
CHECKLIST FOR STAFF ASSISTANCE VISITS
TO BATTALION AID STATIONS**

POM CHECKLIST

Health Records:

Number of personnel in Battalion/Company _____

Accountability Statistics:

- a. Records on-hand _____
- b. Optional 23s _____
- c. Temporary HRECs _____ over 60 days old _____
- d. Total HRECs _____
- e. Minus missing HRECs _____
- f. Total accountability _____ = _____ %

Did PAC provide medical personnel with an Alpha Roster or PQR? Yes/No

If yes, date of roster _____

Were HRECs in proper sequence? Yes/No If no, give reason why not.

Immunizations:

- a. Plague 1 & 2 within 60 days apart _____ Needed _____
- b. Smallpox _____ Needed _____
- c. Typhoid _____ Needed _____
- d. Tetanus _____ Needed _____

Total shots given _____ Needed _____

Service member has shot records in possession Yes/No

Hearing Conservation:

- a. Number of DD Form 2215/16 in HRECs less than a year old _____
- b. Number needing audiometric examination _____
- c. Number of service members with fitted ear plugs _____
- d. Number needing ear plugs _____

Optometry:

Did individuals requiring protective mask inserts have order form? Yes/No

Accountability of medical personnel:

- a. Authorized _____
- b. Assigned _____
- c. Misutilized _____

POM Team: Number of personnel on team _____. Was there an anaphylactic tray on hand? Yes/No. Was there a qualified person there who knew the procedures for using the anaphylactic tray? Yes/No

Number of personnel from unit inspected _____.

UNIT _____

DATE _____

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